STANDARD OPERATING PROCEDURE (SOP)-DRIVEN DIGITAL NETWORK ARCHITECTURE (DNA)

Abstract: A Standard Operating Procedure (SOP)-driven Digital Network Architecture is a software-based method to design, manage and control the laboratory routines using the integrity of computational infrastructure. Approach is based on the concept of a Standard Operating Procedure (SOP) that means the set of stored in the database instructions for users and computer commands. Human instructions include text descriptions and forms placed in a predefined sequence.

Method includes the implementation of the two types of mutually related computer-aided processes - SOP management and laboratory routine realized on the base of the client-server network. Both processes start from the steps of: user authentication; determining of security group or groups that current user is assigned to; obtaining the information about the level of security access (Write, Read Only or None) of the logged user for every process or process part that are reflected as data segments in both the database and Graphical User Interface (GUI).

Further parts of the SOP management process, that may not necessarily be subsequent, are: defining and refining contents of the new SOP; version control - creating a new version of the existing SOP, retirement of the obsolete SOPs; assignment of SOP or SOP set to the types of specimens.

The parts of the laboratory routine process, that have to be subsequent, are: entering the initial specimen information including assigned SOP and first member of a custody chain; entering the intermediate results according to the assigned SOP; specimen transfer to the next member of a custody chain if it is required; repeating the steps of intermediate processing the number of times depending on the assigned

SOP, that forms the chain of custody and contents of the case folder; typing the final result, approval and closing the case.